AN: PAT 2000-303886
TI: Soldering semiconductor **chip** for e.g. RF-power transistor includes coating the **chip** with adhesion, solderable, anti oxidation and **gold-tin** solder layers, placing the **chip** on substrate, and soldering
PN: WO200021346-A1
PD: 13.04.2000
AB: NOVELTY - A semiconductor **chip** is soldered to a substrate by coating the **chip** with an adhesion layer, a solderable layer, an anti oxidation layer and a **gold-tin** (**Au-Sn**) solder layer; placing the **chip** on the substrate; soldering; and solidifying the solder. DETAILED DESCRIPTION - A semiconductor **chip** is soldered to a substrate by coating the **chip** with an adhesion layer, a solderable layer, an anti oxidation layer and a **gold-tin** (**Au-Sn**) solder layer; placing the **chip** on the substrate; exposing the capsule and the **chip** to an inert environment to which a reducing gas is delivered and subjecting the capsule and **chip** to a vacuum pressure while heating the solder; increasing the gas pressure as the solder is molten; and solidifying the solder. An INDEPENDENT CLAIM is also included for a radio frequency (RF)-power transistor having semiconductor **chip**(s) and capsule.; USE - For soldering a semiconductor **chip** to a substrate, e.g. a capsule in an RF-power transistor. ADVANTAGE - The method provides a pore-free solder joint at low solder solidification temperature, allows the use of aluminum nitride as a ceramic insulator instead of highly toxic beryllium oxide, is feasible to batch and automated operation, allows an accurate determination of the solder joint thickness, affords a solder joint having a conductivity twice that of the solder joints using conventional **gold**-silicon alloy and allows low soldering temperature.
PA: (TELF) TELEFONAKTIEBOLAGET ERICSSON L M;
IN: OLOFSSON L;
FA: WO200021346-A1 13.04.2000; KR2001073192-A 31.07.2001; SE9803350-A 03.04.2000; SE512906-C2 05.06.2000; AU200011932-A 26.04.2000; TW410537-A 01.11.2000; US6206269-B1 27.03.2001; US6255002-B1 03.07.2001; EP1121840-A1 08.08.2001;
CO: AE; AL; AM; AT; **AU**; AZ; BA; BB; BE; BG; BR; BY; CA; CH; CN; CU; CY; CZ; DE; DK; EA; EE; EP; ES; FI; FR; GB; GD; **GE**; GH; GM; GR; HR; HU; ID; IE; IL; IN; IS; IT; JP; KE; KG; KP; KR; KZ; LC; LI; LK; LR; LS; LT; LU; LV; MC; MD; MG; MK; MN; MW; MX; NL; NO; NZ; OA; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; SZ; TJ; TM; TR; TT; TW; TZ; UA; UG; US; UZ; VN; WO; YU; ZA; ZW;
DN: AE; AL; AM; AT; **AU**; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CU; CZ; DE; DK; EE; ES; FI; GB; GD; **GE**; GH; GM; HR; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; UA; UG; UZ; VN; YU; ZA; ZW;
DR: AT; BE; CH; CY; DE; DK; EA; ES; FI; FR; GB; GH; GM; GR; IE; IT; KE; LS; LU; MC; MW; NL; OA; PT; SD; SE; SL; SZ; TZ; UG; ZW; AL; LI; LT; LV; MK; RO; SI;
IC: B23K-001/20; B23K-031/02; B23K-035/24; H01L-021/44; H01L-023/48; H01L-023/52; H01L-029/72; H05K-003/34; H05K-007/00;
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